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Yukiyasu Fukami

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SNELL & WILMER LLP
600 ANTON BOULEVARD
SUITE 1400
COSTA MESA, CA 92626

EXAMINER

GELAGAY, SHEWAYE

ART UNIT

PAPER NUMBER

2137

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/023,021	FUKAMI ET AL.	
	Examiner	Art Unit	
	Shewaye Gelagay	2137	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on February 28, 2006 has been entered.

2. Claims 1-34 are pending.

Response to Arguments

3. Applicant's arguments filed February 28, 2006 have been fully considered but they are not persuasive. In response to the arguments concerning the previously rejected claims, the following comments are made:

4. The Applicant argued Akiyama (US 6,463,155) does not teach or suggest "descrambling key identifiers that identify the descrambling keys respectively and are used to identify a descrambling key corresponding to the predetermined unit of scrambled content in both a normal reproduction mode and a particular production mode". Akiyama teaches a conditional access broadcast system with a reception unit for receiving encrypted contents information delivered for a broadcast station; a decryption unit for decrypting encrypted contents using a channel key. (Abstract)

Akiyama further discloses a reception device receiving the broadcast contents information that can be divided into encrypted broadcast contents, a channel key, and channel identifier and an information identifier. The channel key identifier is information for identifying the channel key that can decrypt the corresponding encrypted broadcast contents information. (Figure 34; Col. 27, line 57-Col. 28, lines 33)

The Applicant argued Akiyama does not teach or suggest, "list of descrambling keys". The Examiner would like to point out, Akiyama teaches a broadcast content information that can be divided into encrypted broadcast contents and a channel key to decrypt the corresponding encrypted broadcast content. Furthermore, Akiyama discloses all acquired channel keys are stored along with the channel identifiers in the channel key storage unit. (Col. 41, lines 37-39)

The Examiner disagrees with the applicant and maintains all rejections. All amendments and argument by the Applicant have been considered. It is the Examiner's conclusion that claims 1-34 are not patentably distinct or non-obvious over the prior art of record. Therefore, all the rejection is maintained as given below.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2137

6. Claims 1-3, 11-12, 15, 17-19, 21-29 and 31-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirose United States Letter Patent Number 5,917,915 in view of Akiyama et al (hereinafter Akiyama) United States Letter Patent Number 6,463,155.

As per claims 1, 22, 26 and 31:

Hirose teaches a method, a program, a recording medium and a reception apparatus which receives and reproduces scrambled content, comprising:

reception means for receiving the scrambled content, wherein the scrambled content is scrambled so that a predetermined unit of scrambled content, which is a portion of the scrambled content, is descrambled using a descrambling key corresponding to the predetermined unit of scrambled content, and at least one piece of storage information in which a list of descrambling keys including all descrambling keys to be used for descrambling the scrambled content is embedded; (Col. 3, lines 2-14)

storage means for storing the received scrambled content and the storage information; (Col. 3, lines 34-38)

list extraction means for extracting the list of descrambling keys from the stored storage information; (Col. 3, line 39; *read means is interpreted as list extraction means; the interpretation is given based on the similarity of the functionality of the read means and the list extraction means*)

descramble processing means for (a) extracting the predetermined unit of scrambled content from the stored scrambled content, (Col. 10, lines 17-26) either sequentially if in the normal reproduction mode or in an order different from the normal

Art Unit: 2137

reproduction mode if in the particular mode. (Col. 3, lines 52-61) (b) extracting a descrambling key corresponding to the predetermined unit of scrambled content from the extracted list, (Col. 3, lines 40-43) and (c) descrambling the extracted predetermined unit of scrambled content using the extracted descrambling key; and reproduction means for reproducing the predetermined unit of descrambled content in the descrambled order. (Col. 3, lines 43-45)

Hirose does not explicitly disclose descrambling key identifiers that identify the descrambling keys respectively and are used to identify a descrambling key corresponding to the predetermined unit of scrambled content in both a normal reproduction mode and a particular production mode.

Akiyama in analogous art, however, discloses descrambling key identifiers that identify the descrambling keys respectively and are used to identify a descrambling key corresponding to the predetermined unit of scrambled content in both a normal reproduction mode and a particular production mode. (Col. 27, line 57-Col. 28, lines 33; Col. 30, lines 40-43; Col. 41, lines 37-39)

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the device disclosed by Hirose to include descrambling key identifiers that identify the descrambling keys respectively and are used to identify a descrambling key corresponding to the predetermined unit of scrambled content in both a normal reproduction mode and a particular production mode. This modification would have been obvious because a person having ordinary skill in the art would have been motivated to do so, as suggested by, Akiyama

Art Unit: 2137

(Abstract) in order to allow conditional access while maintaining the safety level. This way, a controlling system is provided whether or not to give a decryption key to the decryption unit according to access condition in the contract.

As per claim 2:

Hirose and Akiyama teach all the subject matter as discussed above. In addition, Hirose further discloses a reception apparatus wherein

the reception means receives one piece of storage information in which the list of descrambling keys is embedded, (Col. 3, lines 2-14)

the storage means stores the received scrambled content and the one piece of storage information, (Col. 10, lines 17-26) and

the list extraction means extracts the list of descrambling keys from the stored one piece of storage information. (Col. 3, lines 39-43)

As per claim 3:

Hirose and Akiyama teach all the subject matter as discussed above. In addition, Hirose further discloses a reception apparatus wherein

the reception means receives a plurality of pieces of storage information in each piece of which a divided portion of the list of descrambling keys is embedded, (Figure 6, item 8)

the storage means stores the received scrambled content and the plurality of pieces of storage information, (Col. 10, lines 17-26) and

the list extraction means extracts the list of descrambling keys from the stored plurality of pieces of storage information. (Col. 3, lines 39-43)

Art Unit: 2137

As per claim 11:

Hirose and Akiyama teach all the subject matter as discussed above. In addition, Hirose further discloses a reception apparatus managing contract information and consisting of a security module whose portion does not effectively function if a contract has not been made, and other modules, the reception apparatus further comprising:

list holding means for holding the list extracted by the list extraction means, (Figure 11, item 101 and 111)

wherein the list extraction means and the list holding means are provided within the security module. (Figure 11, item 101 and 111)

As per claims 12, 23, 27 and 32:

Hirose teaches a method, a program, a recording medium and a reception apparatus which receives and reproduces scrambled content, comprising:

reception means for receiving the scrambled content, wherein the scrambled content is scrambled so that a predetermined unit of scrambled content, which is a portion of the scrambled content, is descrambled using a descrambling key corresponding to the predetermined unit of scrambled content, and a descrambling key is attached to each predetermined unit of scrambled content; (Col. 3, lines 2-14)

storage means for storing the received scrambled content; (Col. 3, lines 34-38)

list generation means for, when/after storing the received scrambled content by the storage means, generating a list of descrambling keys including all descrambling keys to be used for descrambling the scrambled content, based on the descrambling key attached to each predetermined unit of scrambled content; (Col. 3, line 39)

descramble processing means for (a) extracting the predetermined unit of scrambled content from the stored scrambled content, (Col. 10, lines 17-26) either sequentially if in a normal reproduction mode or in an order different from the normal reproduction mode if in a particular mode. (Col. 3, lines 52-61) (b) extracting a descrambling key corresponding to the extracted predetermined unit of scrambled content from the generated list, (Col. 3, lines 40-43) and (c) descrambling the extracted predetermined unit of scrambled content using the extracted descrambling key; (Col. 43-45) and

reproduction means for reproducing the predetermined unit of descrambled content in the descrambled order. (Col. 7, lines 66-67 and Col. 8, lines 1-6)

Hirose does not explicitly disclose descrambling key identifiers that identify the descrambling keys respectively and are used to identify a descrambling key corresponding to the predetermined unit of scrambled content in both a normal reproduction mode and a particular production mode.

Akiyama in analogous art, however, discloses descrambling key identifiers that identify the descrambling keys respectively and are used to identify a descrambling key corresponding to the predetermined unit of scrambled content in both a normal reproduction mode and a particular production mode. (Col. 27, line 57-Col. 28, lines 33; Col. 30, lines 40-43; Col. 41, lines 37-39)

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the device disclosed by Hirose to include descrambling key identifiers that identify the descrambling keys respectively and are

Art Unit: 2137

used to identify a descrambling key corresponding to the predetermined unit of scrambled content in both a normal reproduction mode and a particular production mode. This modification would have been obvious because a person having ordinary skill in the art would have been motivated to do so, as suggested by, Akiyama (Abstract) in order to allow conditional access while maintaining the safety level. This way, a controlling system is provided whether or not to give a decryption key to the decryption unit according to access condition in the contract.

As per claims 15, 24, 28, and 33:

Hirose teaches a method, a program, a recording medium and a broadcast apparatus which scrambles content and broadcasts the scrambled content to a reception apparatus, the broadcast apparatus comprising:

acquisition means for acquiring content to be scrambled and a plurality of descrambling keys; (Col. 2, lines 50-57; Col. 5, lines 14-17 and lines 39-40)

scramble processing means for scrambling a predetermined unit of content out of the acquired content so that the predetermined unit of scrambled content is descrambled using a descrambling key different for each predetermined unit or each set of a plurality of predetermined units; (Col. 2, lines 61-67; Col. 5, lines 19-23)

attaching means for attaching auxiliary information to the predetermined unit of scrambled content, the auxiliary information consisting of (a) information for identifying the scrambled content (Col. 5, line 67) and (b) a descrambling key corresponding to the content, and used for having the reception apparatus generate a list of the descrambling keys; (Col. 5, lines 65-66) and

broadcast means for broadcasting the scrambled content to which the auxiliary information is added. (Figure 1, item 4; Col. 2, lines 23-24)

Hirose does not explicitly disclose descrambling key identifiers that identify the descrambling keys respectively and are used to identify a descrambling key corresponding to the predetermined unit of scrambled content in both a normal reproduction mode and a particular production mode.

Akiyama in analogous art, however, discloses descrambling key identifiers that identify the descrambling keys respectively and are used to identify a descrambling key corresponding to the predetermined unit of scrambled content in both a normal reproduction mode and a particular production mode. (Col. 27, line 57-Col. 28, lines 33; Col. 30, lines 40-43; Col. 41, lines 37-39)

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the device disclosed by Hirose to include descrambling key identifiers that identify the descrambling keys respectively and are used to identify a descrambling key corresponding to the predetermined unit of scrambled content in both a normal reproduction mode and a particular production mode. This modification would have been obvious because a person having ordinary skill in the art would have been motivated to do so, as suggested by, Akiyama (Abstract) in order to allow conditional access while maintaining the safety level. This way, a controlling system is provided whether or not to give a decryption key to the decryption unit according to access condition in the contract.

As per claims 17, 25, 29 and 34:

Hirose teaches a method, a program, a recording medium and a broadcast apparatus which scrambles content and broadcasts the scrambled content to a reception apparatus, the broadcast apparatus comprising:

acquisition means for acquiring content to be scrambled and a plurality of descrambling keys; (Col. 2, lines 50-57; Col. 5, lines 14-17 and lines 39-40)

list generation means for generating a list of the descrambling keys including the descrambling keys ; ((Col. 5, lines 18-19)

embedding means for embedding the list in at least one piece of predetermined information to generate at least one piece of storage information; (Col. 5, lines 20-23)

scramble processing means for scrambling a predetermined unit of content out of the acquired content so that the predetermined unit of scrambled content is descrambled using a descrambling key different for each predetermined unit or each set of a plurality of predetermined units; (Col. 2, lines 61-67; Col. 5, lines 19-23) and

broadcast means for broadcasting the generated storage information and the scrambled content. (Figure 1, item 4; Col. 2, lines 23-24)

Hirose does not explicitly disclose descrambling key identifiers that identify the descrambling keys respectively and are used to identify a descrambling key corresponding to the predetermined unit of scrambled content in both a normal reproduction mode and a particular production mode.

Akiyama in analogous art, however, discloses descrambling key identifiers that identify the descrambling keys respectively and are used to identify a descrambling key corresponding to the predetermined unit of scrambled content in both a normal

Art Unit: 2137

reproduction mode and a particular production mode. (Col. 27, line 57-Col. 28, lines 33; Col. 30, lines 40-43; Col. 41, lines 37-39)

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the device disclosed by Hirose to include descrambling key identifiers that identify the descrambling keys respectively and are used to identify a descrambling key corresponding to the predetermined unit of scrambled content in both a normal reproduction mode and a particular production mode. This modification would have been obvious because a person having ordinary skill in the art would have been motivated to do so, as suggested by, Akiyama (Abstract) in order to allow conditional access while maintaining the safety level. This way, a controlling system is provided whether or not to give a decryption key to the decryption unit according to access condition in the contract.

As per claim 18:

Hirose and Akiyama teach all the subject matter as discussed above. In addition, Hirose further discloses a broadcast apparatus wherein the embedding means embeds the list of descrambling keys in one piece of predetermined information to generate one piece of storage information, and the broadcasting means broadcasts the generated one piece of information and the scrambled content. (Col. 5, lines 20-34 and lines 43-46)

As per claim 19:

Hirose and Akiyama teach all the subject matter as discussed above. In addition, Hirose further discloses a broadcast apparatus wherein the embedding means embeds

Art Unit: 2137

a divided portion of the list of descrambling keys in each of a plurality of pieces of predetermined information to generate a plurality of pieces of storage information, and the broadcasting means broadcasts the generated plurality of pieces of storage information and the scrambled content. (Col. 5, lines 20-34 and lines 43-46)

As per claim 21:

Hirose and Akiyama teach all the subject matter as discussed above. In addition, Hirose further discloses a broadcast apparatus wherein the broadcast means broadcasts one set of the storage information while all the scrambled content corresponding to the storage information are broadcast once. (Col. 14, lines 65-67 and Col. 15, lines 1-5)

7. Claims 4, 8 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirose United States Letter Patent Number 5,917,915 in view of Akiyama et al (hereinafter Akiyama) United States Letter Patent Number 6,463,155 further in view of Morinaga et al. United States Letter Patent Number 6,792,000.

As per claim 4:

Hirose and Akiyama teach all the subject matter as discussed above. In addition, Hirose further discloses a reception apparatus wherein

the reception means sequentially receives a transport stream (TS) packet including the predetermined unit of scrambled content, (Col. 3, lines 2-14, Hirose)

the storage means sequentially stores the received TS packet, (Col. 3, lines 34-38, Hirose) wherein the descramble processing means includes:

scrambled content extraction means for extracting the predetermined unit of scrambled content from one of the TS packets stored in the storage means, and counting the ordinal position of the TS packet from the leading TS packet; (Col. 10, lines 43-45, Hirose)

descrambling key extraction means for extracting a descrambling key from the list of descrambling key, based on the counted ordinal position; (Col. 3, lines 40-43, Hirose) and

descrambling means for descrambling the extracted predetermined unit of scrambled content using the extracted descrambling key. (Col. 10, lines 43-45, Hirose)

Both references do not explicitly disclose sequentially receiving and storing a transport stream packet (TS) packet; and extracting the predetermined unit of scrambled content from one of the TS packets stored in the storage means, and counting the ordinal position of the TS packet from the leading TS packet.

Morinaga et al. in analogous art, however, disclose receiving and storing a transport stream packet (TS) packet; (Col. 4, lines 13-31, Morinaga) and extracting the predetermined unit of scrambled content from one of the TS packets stored in the storage means, and counting the ordinal position of the TS packet from the leading TS packet. (Col. 1, lines 39-57, Morinaga)

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the device disclosed by Hirose and Akiyama to include sequentially receiving and storing a transport stream packet (TS) packet; and extracting the predetermined unit of scrambled content from one of the TS

Art Unit: 2137

packets stored in the storage means, and counting the ordinal position of the TS packet from the leading TS packet. This modification would have been obvious because a person having ordinary skill in the art would have been motivated to do so, as suggested by, Morinaga et al. (Col. 1, lines 12-13) in order to have a system capable of simultaneous recoding and reproducing of broadcast program.

As per claim 8:

Hirose and Akiyama teach all the subject matter as discussed above. In addition Hirose further discloses a reception apparatus wherein

the reception means sequentially receives a TS packet including (a) the predetermined unit of scrambled content (Col. 3, lines 2-14, Hirose) and

the storage means sequentially stores the received TS packet (Col. 3, lines 34-38, Hirose), wherein

the descramble processing means includes:

scrambled content extraction means for extracting the predetermined unit of scrambled content and the packet specifying information from one of the TS packets stored in the storage means; (Col. 10, lines 43-45, Hirose)

descrambling key extraction means for extracting a descrambling key from the list of descrambling key, based on the extracted packet specifying information; (Col. 3, lines 40-43, Hirose) and

descrambling means for descrambling the extracted predetermined unit of scrambled content using the extracted descrambling key. (Col. 10, lines 43-45, Hirose)

Both references do not explicitly disclose a packet specifying information for specifying an unscrambled TS packet; sequentially receiving and storing a transport stream packet (TS) packet; and extracting the predetermined unit of scrambled content from one of the TS packets stored in the storage means, and counting the ordinal position of the TS packet from the leading TS packet.

Morinaga et al. in analogous art, however, disclose a packet specifying information for specifying an unscrambled TS packet; (Col. 6, lines 19-33, Morinaga) receiving and storing a transport stream packet (TS) packet; (Col. 4, lines 13-31, Morinaga) and extracting the predetermined unit of scrambled content from one of the TS packets stored in the storage means, and counting the ordinal position of the TS packet from the leading TS packet. (Col. 1, lines 39-57, Morinaga)

The rational for combining the above references is the same as claim 4 above.
As per claim 13:

Hirose and Akiyama teach all the subject matter as discussed above. In addition, Hirose further discloses a reception apparatus wherein the reception means for receiving (a) the predetermined unit of scrambled content, and (b) auxiliary information including a descrambling key and information for associating the descrambling key with scrambled content, (Col. 3, lines 2-14, Hirose)

the storage means sequentially stores the received TS packet, (Col. 3, lines 34-38, Hirose) and

the list generation means generates the list of descrambling key, based on the auxiliary information. (Col. 3, line 39)

Both references do not explicitly disclose sequentially receiving and storing a transport stream packet (TS) packet.

Morinaga et al. in analogous art, however, disclose receiving and storing a transport stream packet (TS) packet. (Col. 4, lines 13-31, Morinaga)

The rationale for combining the above references is the same as claim 4 above.

8. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hirose United States Letter Patent Number 5,917,915 in view of Akiyama et al (hereinafter Akiyama) United States Letter Patent Number 6,463,155 in view of Morinaga et al. United States Letter Patent Number 6,792,000 and further in view of Kahn et al. United States Letter Patent Number 6,853,728.

As per claim 9:

Hirose, Akiyama and Morinaga et al. teach all the subject matter as discussed above. In addition, Hirose further disclose a reception apparatus wherein

the descrambling key extraction means performs a predetermined operation to the extracted information as the packet identifying information to generate a descrambling key identifier, and extracts a descrambling key from the list of descrambling key based on the descrambling key identifier. (Col. 3, lines 40-43 and Col. 10, lines 43-45, Hirose)

In addition Morinaga et al. further disclose receiving and storing a transport stream packet (TS) packet; (Col. 4, lines 13-31, Morinaga) and extracting the predetermined unit of scrambled content from one of the TS packets stored in the

storage means, and counting the ordinal position of the TS packet from the leading TS packet. (Col. 1, lines 39-57, Morinaga)

Neither of the references explicitly disclose

the packet specifying information is one of Continuity Counter (CC), the number of TS packets, a cumulative amount of data, a relative reproduction time, and a scrambling key identifier,

the scrambled content extraction means extracts, as the packet specifying information, one of the Continuity Counter (CC), the number of TS packets, the cumulative amount of data, the relative reproduction time, and the scrambling key identifier,

Kahn et al. in analogous art, however, discloses the packet specifying information is one of Continuity Counter (CC), the number of TS packets, a cumulative amount of data, a relative reproduction time, and a scrambling key identifier, (Col. 6, lines 30-46, Kahn)

the scrambled content extraction means extracts, as the packet specifying information, one of the Continuity Counter (CC), the number of TS packets, the cumulative amount of data, the relative reproduction time, and the scrambling key identifier, (Col. 6, lines 30-46)

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the device disclosed by Hirose, Akiyama and Morinaga et al. to include the packet specifying information is one of Continuity Counter (CC), the number of TS packets, a cumulative amount of data, a relative

Art Unit: 2137

reproduction time, and a scrambling key identifier; and the scrambled content extraction means extracts, as the packet specifying information, one of the Continuity Counter (CC), the number of TS packets, the cumulative amount of data, the relative reproduction time, and the scrambling key identifier. This modification would have been obvious because a person having ordinary skill in the art would have been motivated to do so, as suggested by, Kahn et al. (Col. 6, lines 26-27) in order to resemble the packets to regenerate the program material.

9. Claims 5-7, 14, 16, 20 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirose United States Letter Patent Number 5,917,915 in view of Akiyama et al (hereinafter Akiyama) United States Letter Patent Number 6,463,155 in view of Morinaga et al. United States Letter Patent Number 6,792,000 and further in view of Sato United States Letter Patent Number 6,219,422.

As per claim 5:

Hirose and Akiyama teach all the subject matter as disclosed above. Both references do not explicitly disclose a reception apparatus wherein the reception means receives at least one storage Entitlement Control Message (ECM) as the at least one piece of storage information, the list of descrambling key being embedded in a portion to be encoded in the main body of the ECM, the storage means stores the received storage ECMs, and the list extraction means interprets the stored storage ECMs to extract the list of descrambling key.

Sato in analogous art, however, discloses a reception means receives at least one storage Entitlement Control Message (ECM) as the at least one piece of storage

Art Unit: 2137

information, the list being embedded in a portion to be encoded in the main body of the ECM, the storage means stores the received storage ECMs, and the list extraction means interprets the stored storage ECMs to extract the list. (Col. 8, lines 17-27, Sato)

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the device disclosed by Hirose and Akiyama to include a reception means receives at least one storage Entitlement Control Message (ECM) as the at least one piece of storage information, the list being embedded in a portion to be encoded in the main body of the ECM, the storage means stores the received storage ECMs, and the list extraction means interprets the stored storage ECMs to extract the list. This modification would have been obvious because a person having ordinary skill in the art would have been motivated to do so, as suggested by, Sato (Col. 4, lines 39-42) in order to decrypt the information data which was selectively reproduced, so that deterioration of the reliability of the conditional access can be prevented.

As per claim 6:

Hirose, Akiyama and Sato teach all the subject matter as disclosed above. In addition, Sato further discloses a reception apparatus wherein the reception means receives the storage ECMs including identifying information for distinguishing the storage ECMs from another type of ECM. (Col. 8, lines 23-27, Sato)

As per claim 7:

Hirose, Akiyama and Sato teach all the subject matter as disclosed above. In addition, Sato further discloses a reception apparatus wherein the reception means receives the storage ECMs at a time. (Col. 7, lines 30-37, Sato)

As per claim 14:

Hirose and Akiyama teach all the subject matter as disclosed above. Both references do not explicitly disclose a reception apparatus wherein the TS packet includes an ECM, the auxiliary information being embedded in a portion to be encoded in a main body of the ECM, and the list generation means extracts the auxiliary information embedded in the ECM, and generates the list of descrambling key based on the auxiliary information.

Sato in analogous art, however, disclose a reception apparatus wherein the TS packet includes an ECM, the auxiliary information being embedded in a portion to be encoded in a main body of the ECM, and the list generation means extracts the auxiliary information embedded in the ECM, and generates the list based on the auxiliary information. (Col. 8, lines 17-27, Sato)

The rationale for combining the above references is the same as claim 5 above.

As per claim 16:

Hirose and Akiyama teach all the subject matter as disclosed above. Both references do not explicitly disclose a broadcast apparatus wherein the attaching means embeds the auxiliary information in a portion to be encoded in a main body of an ECM and attaches the ECM to the predetermined unit of scrambled content.

Art Unit: 2137

Sato in analogous art, however, disclose a broadcast apparatus wherein the attaching means embeds the auxiliary information in a portion to be encoded in a main body of an ECM and attaches the ECM to the predetermined unit of scrambled content. (Col. 7, lines 1-3, Sato)

The rationale for combining the above references is the same as claim 5 above.
As per claim 20:

Hirose and Akiyama teach all the subject matter as disclosed above. Both references do not explicitly disclose a broadcast apparatus wherein the embedding means embeds the list of descrambling key in a portion to be encoded in a main body of at least one ECM to generate at least one piece of storage information.

Sato in analogous art, however, disclose a broadcast apparatus wherein the embedding means embeds the list in a portion to be encoded in a main body of at least one ECM to generate at least one piece of storage information. (Col. 7, lines 1-3, Sato)

The rationale for combining the above references is the same as claim 5 above.
As per claim 30:

Hirose teach a computer-readable recording medium on which content to be broadcast to a reception apparatus is recorded, wherein the reception apparatus receives and stores scrambled content, and descrambles and reproduces the stored scrambled content, the content comprising:

scrambled content which is scrambled so that a predetermined unit of scrambled content, which is a portion of the scrambled content, is descrambled using a

Art Unit: 2137

descrambling key corresponding to the predetermined unit of content, (Col. 2, lines 61-67; Col. 5, lines 19-23, Hirose) and

Hirose does not explicitly disclose a storage ECM, wherein a list of descrambling key including all descrambling keys used for descrambling the scrambled content is embedded in a portion to be encoded in a main body of at least one ECM; and key specifying information for specifying a descrambling key.

Sato in analogous art, however, disclose a storage ECM, wherein a list including all descrambling keys used for descrambling the scrambled content is embedded in a portion to be encoded in a main body of at least one ECM. (Col. 7, lines 1-3, Sato)

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the device disclosed by Hirose and Akiyama to include a reception means receives at least one storage Entitlement Control Message (ECM) as the at least one piece of storage information, the list being embedded in a portion to be encoded in the main body of the ECM, the storage means stores the received storage ECMs, and the list extraction means interprets the stored storage ECMs to extract the list. This modification would have been obvious because a person having ordinary skill in the art would have been motivated to do so, as suggested by, Sato (Col. 4, lines 39-42) in order to decrypt the information data which was selectively reproduced, so that deterioration of the reliability of the conditional access can be prevented.

Both references do not explicitly disclose descrambling key identifiers that identify the descrambling keys respectively and are used to identify a descrambling key

corresponding to the predetermined unit of scrambled content in both a normal reproduction mode and a particular production mode.

Akiyama in analogous art, however, discloses descrambling key identifiers that identify the descrambling keys respectively and are used to identify a descrambling key corresponding to the predetermined unit of scrambled content in both a normal reproduction mode and a particular production mode. (Col. 27, line 57-Col. 28, lines 33; Col. 30, lines 40-43; Col. 41, lines 37-39)

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the device disclosed by Hirose and Sato to include descrambling key identifiers that identify the descrambling keys respectively and are used to identify a descrambling key corresponding to the predetermined unit of scrambled content in both a normal reproduction mode and a particular production mode. This modification would have been obvious because a person having ordinary skill in the art would have been motivated to do so, as suggested by, Akiyama (Abstract) in order to allow conditional access while maintaining the safety level. This way, a controlling system is provided whether or not to give a decryption key to the decryption unit according to access condition in the contract.

10. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hirose United States Letter Patent Number 5,917,915 in view of Akiyama et al (hereinafter Akiyama) United States Letter Patent Number 6,463,155 in view of Morinaga et al. United States Letter Patent Number 6,792,000 and further in view of Ando et al. United States Publication No. 2003/0133699.

Art Unit: 2137

As per claim 10:

Hirose, Akiyama and Morinaga et al. teach all the subject matter as discussed above. In addition, Hirose further discloses a reception apparatus wherein the reception means receives (a) the predetermined unit of scrambled content (Col. 3, lines 2-14, Hirose) and

the storage means sequentially stores the received content, (Col. 3, lines 34-38, Hirose) wherein

the descramble processing means includes:

scrambled content extraction means for, when performing particular reproduction processes, extracting the predetermined unit of scrambled content and I picture information from one of the TS packets stored in the storage means; (Col. 10, lines 43-45, Hirose)

descrambling key extraction means for extracting a descrambling key from the list of descrambling keys, only when the extracted predetermined unit of scrambled content consists of a portion of an I picture/an I picture; (Col. 3, lines 40-43, Hirose) and

descrambling means for descrambling the extracted predetermined unit of scrambled content using the extracted descrambling key. (Col. 10, lines 43-45)

In addition Morinaga et al. further disclose receiving and storing a transport stream packet (TS) packet. (Col. 4, lines 13-31, Morinaga)

Neither of the references explicitly disclose unscrambled I picture information, wherein the I picture information indicates whether the TS packet corresponding to the information consists of a portion of an I picture/an I picture or not; and I picture judgment

means for judging whether the extracted predetermined unit of scrambled content consists of a portion of an I picture/an I picture or not, based on the extracted I picture information.

Ando et al. in analogous art, however, discloses a system to manage digital TV broadcast data that uses a signal or radio wave that is segmented into a plurality of sets of TS packets to locate an I-picture at the head of each set. The I-picture is always located at the head, the I-picture address need not be described, and only the I-picture end address can be described. (Page 7, paragraphs 157 and 159; Figure 11)

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the device disclosed by Hirose, Akiyama and Morinaga et al. to include unscrambled I picture information, wherein the I picture information indicates whether the TS packet corresponding to the information consists of a portion of an I picture/an I picture or not; and I picture judgment means for judging whether the extracted predetermined unit of scrambled content consists of a portion of an I picture/an I picture or not, based on the extracted I picture information. This modification would have been obvious because a person having ordinary skill in the art would have been motivated to do so, as suggested by, Ando et al. (Page 1, paragraph 21) in order to provide a system that can efficiently record a transport packet in a streamer which uses media capable of random access.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shewaye Gelagay whose telephone number is 571-272-4219. The examiner can normally be reached on 8:00 am to 5:30 pm.

Art Unit: 2137

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Emmanuel Moise can be reached on 571-272-3865. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Shewaye Gelagay
3/24/06

SG

Emmanuel L. Moise

EMMANUEL L. MOISE
SUPERVISORY PATENT EXAMINER